Some New Distributional Records of Broad-Nosed Bats (*Nycticeius* spp.)

By John L. McKean*

Summary

The ranges of Australian forms of the genus *Nycticeius* are defined and in some cases extended. *N. balstoni balstoni* is recorded for the first time in New South Wales.

I. Introduction

The Australian members of the genus *Nycticeius* (Broad-nosed Bats) have in the past been rather inadequately collected. As a result their distribution is not well defined nor can the taxonomic status of several forms be critically viewed.

The generic name *Nycticeius* is used throughout this paper following Hollister (1918) and Simpson (1945). The characters by which Australian members of this group have been previously separated are not of sufficient significance to warrant their allocation to the genus *Scoteinus*. It is considered, contrary to Tate (1942, 1952) that, although the skull characters of the genotype *Scoteinus emarginatus* are undescribed, this in no way prevents the use of *Nycticeius* for Australian members of the group.

In the course of examining specimens for this paper I found the skull characteristics of *N. greyii* and *N. rueppellii* to be very distinctive and consider them good species. However, the skull characters of the forms *N. orion orion, N. orion aquilo, N. sanborni, N. balstoni balstoni,* and *N. balstoni caprenus* are rather similar and I think they may be only geographical races of the one species *N. balstoni*. I have not examined *N. influatus* and cannot comment on its relationship. To confirm these views on the close relationship of the *N. balstoni* group, specimens are required from areas where the various forms are likely to intergrade. This work is in progress.

II. Distribution

Intensified collecting in the last two years has resulted in the specimens listed in Table 1 being added to the C.S.I.R.O. collections. Identification of the species and subspecies in the table is based on previously published descriptions and on types, toto-types, or near toto-typical material examined.

Localities mentioned in the text are shown in Figure 1.

N. rueppellii

The largest species, *N. rueppellii*, is stated by Troughton (1957) to have been collected at Sydney and at Lithgow, N.S.W. Recently J. H. Calaby (1965) has recorded it from Bonalbo, Tooloom, and Yabbra State Forest, N.S.W.; P. D. Dwyer (Simpson and Hamilton-Smith 1965) has recorded it from Black Fellows Gully, N.S.W., and it is now recorded (Table 1) from Nimbin, N.S.W. These recent records extend its known range, the vicinity of Sydney, to north-eastern New South Wales.

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YABBRA FOREST
TOOLOOM
NIMBIN
BONALBO
BLACK-FELLOWS GULLY
LITHGOW
SYDNEY


DARWIN
HUMPTY DOO
KIMBERLEYS
HORSESHOE BEND
LAVERTON
RIVERTON
RED CLIFFS
GRIFFITH
LINGA LAKE
CARISBROOK


PRAIRIE


TULLY
BOWEN
ROCKHAMPTON
BLACK-FELLOWS GULLY
JENOLAN CAVES
WOMBEYAN CAVES
HUNTERS HILL
SEVEN HILLS


COOKTOWN


PORT ESSINGTON
DARWIN
MALBON
SPEAR CREEK
PENTLAND
ROCKHAMPTON
STUARTS CREEK
SALISBURY DOWNS
TERO CREEK
PARALANA RANGES
LAKE COWAL
GRIFFITH

FIG. 1—Map showing distribution of *Nycticeius* in Australia.

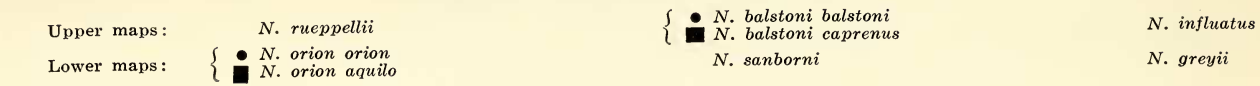

TABLE 1—DETAILS OF RECENTLY COLLECTED *Nycticeius* SPP.

Specimen No.	Form	Sex	Locality	Date	Radius Measurement in mm.
MH 436	*N. rueppellii*	♀	Nimbin, N.S.W.	12. i. 1965	54·0
MH 471	„ „	♀	„ „	20. iv. 1965	50·9
MH 442	*N. balstoni balstoni*	♀	Barrenbox Swamp, Griffith, N.S.W.	18. iii. 1965	36·5
MH 443	„ „ „	?	„ „ „ „	19. iii. 1965	37·5
MH 444	„ „ „	♀	„ „ „ „	19. iii. 1965	34·5
MH 245	*N. balstoni caprenus*	♀	Fogg Dam, Humpty Doo, N.T.	10. ix. 1964	33·2
MH 349	*N. orion orion*	♀	Seven Hills, Sydney, N.S.W.	29. x. 1962	34·6
MH 469	„ „ „	?	Bullio Cave, Wombeyan, N.S.W.	13. iii. 1965	34·5
MH 494	„ „ „	?	„ „ „ „	29. v. 1965	—
MH 307	*N. orion aquilo*	♀	Tully, Qld.	early Sept. 1964	33·7
MT 308	„ „ „	♀	„ „	„ „ „	34·2
MH 309	„ „ „	♀	„ „	„ „ „	32·4
MH 310	„ „ „	♂♀	„ „	„ „ „	32·0
MH 456	*N. greyii*	♀	Toganmain Station, via Darlington Point, N.S.W.	4. v. 1965	28·4
MH 506	„ „	♀	Toganmain Station, via Darlington Point, N.S.W.	6. vi. 1965	31·7
MH 445	„ „	♂	Barrenbox Swamp, Griffith, N.S.W.	17. iii. 1965	30·1
MH 446	„ „	♂	„ „ „ „	17. iii. 1965	30·6
MH 70	„ „	♂	Lake Cowal, N.S.W.	24. i. 1964	30·9
MH 372	„ „	♂	Salisbury Downs, via White Cliffs, N.S.W.	early Dec. 1964	31·2
MH 167	„ „	♂	Tero Creek, N.S.W., via White Cliffs	8. v. 1964	29·9
MH 393	„ „	♂♀	Spear Creek, Mt. Isa, Qld.	20. i. 1964	29·9
MH 394	„ „	♀	„ „ „ „ „	20. i. 1964	30·3

N. balstoni

N. balstoni balstoni was originally described from Laverton in the Kalgoorlie region of Western Australia. A speciment from Riverton, S.A. (Wood-Jones 1925) and specimens from Horseshoe Bend, Finke River, N.T. (Johnson 1964), are referable to the nominate form.

The specimens of *N. b. balstoni* from Griffith, N.S.W. (Table 1) represent the first published record of the species from New South Wales. The species has also been recorded recently from Carisbrook, Linga Lake and Red Cliffs in northern Victoria (R. M. Ryan 1965, pers. comm.) and subfossil remains of a *Nycticeius* sp. have been recorded (Wakefield 1963) from the Grampians in western Victoria, and it is thus apparent that *N. balstoni* has a far more extensive distribution than previously supposed. Although *N. balstoni* has not been recorded in Queensland it seems highly likely that, when more material of *N. influatus* is available, it will be found to be conspecific with *N. balstoni.*

N. balstoni caprenus is restricted to the Kimberleys, W.A., by Troughton (1957), but Johnson (1964) has referred a specimen from Darwin, N.T., to this form. The specimen of *N. b. caprenus* from Humpty Doo, some 30 miles south of Darwin (Table 1), supports this extension of range.

N. influatus

N. influatus is apparently only known from the type locality Prairie, in the Hughenden district, Qld. (Troughton 1957).

N. orion

N. orion orion has been recorded from near Hunters Hill, Sydney, by Troughton (1957) and presumably the same race from Black Fellows Gully in northern New South Wales by P. D. Dwyer (Simpson and Hamilton-Smith 1965). The specimens of *N. orion orion*, from a cave at Wombeyan, N.S.W., would appear most unusual as Australian members of this genus are usually tree and house dwelling (Hamilton-Smith 1964). However, Miss B. Dew (pers. comm.) has on one occasion found a *N. orion orion* with a group of *Miniopterus schreibersii* in the Grand Arch Cave, Jenolan, N.S.W. *N. orion aquilo* is represented in the Australian Museum, Sydney, by specimens from the Rockhampton and Bowen districts of Queensland. The specimens of *N. o. aquilo* from Tully, Qld., extend the range of this form some 200 miles northwards from Bowen. The specimens, although closer to *N. o. aquilo,* approach *N. sanborni* in some respects and it seems likely that further collecting will show that there is a complete cline between *N. orion* and *N. sanborni.*

N. sanborni

N. sanborni is known from various localities in Papua and from the Cooktown district, Queensland (Tate 1952).

N. greyii

N. greyii according to Troughton (1957) has an extensive inland range, approaching nearest to the coast in the Murray region of South Australia, at Darwin in the Northern Territory, and in the Rockhampton area of Queensland and extending into northern New South Wales. The species is also recorded as having been collected at Port Essington, N.T. (the type locality), at Pentland and Malbon in Queensland (Tate 1952), and at Stuart's Creek and the Paralana Ranges in South Australia (Wood-Jones 1925).

The specimens of *N. greyii* from Griffith and Lake Cowal in south-western New South Wales (Table 1)

represent an extension of range. The specimens from Griffith were taken in the area where *N. balstoni* was also collected. As *N. greyii* has now been collected throughout western New South Wales and South Australia, it seems relevant to point out that its apparent absence from northern and western Victoria is probably due to insufficient collecting in that area.

III. Discussion

This discussion must be regarded as tentative as, no doubt, future collecting will show the distribution of most, if not all, of the species discussed to be more extensive than is at present known.

N. rueppellii is confined to the temperate, east coast of New South Wales from Sydney northwards. *N. orion* occurs throughout its entire range.

N. greyii, although not strictly an arid region species, is not known from temperate forest nor from densely forested regions. Over part of its range *N. balstoni balstoni, N. balstoni caprenus,* and *N. orion aquilo* also occur.

The following group contains closely related forms with similar dentition and body and wing proportions and measurements. It seems likely that, if the distribution of these forms overlapped, direct competition for food could result. At present all forms appear allopatric in distribution.

N. balstoni is the arid zone representative of the group with the nominate race in the southern and central portion of its range and the race *caprenus* in the far north and northwest portion. *N. influatus* is only known from central-western Queensland, *N. orion* is the coastal representative with the nominate race extending from the vicinity of Sydney, N.S.W., to north-eastern New South Wales and the northern race *aquilo* from Rockhampton, Qld., to Tully, Qld. *N. sanborni* is known from Cooktown, Qld., and from various localities in Papua.

IV. Acknowledgements

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Book Review

"Injuries to Man from Marine Invertebrates in the Australian Region."

Sir J. B. Cleland, C.B.E., M.D., Professor Emeritus, University of Adelaide

and

R. V. Southcott, M.D., D.Sc., D.T.M., Honorary Zoologist, South Australian Museum.

[National Health and Medical Research Council, Special Report Series No. 12. XIII + 282 pp. Commonwealth of Australia, Canberra, 1965.

Price £2 ($4).]

The authors, both recognized authorities in Australia and abroad, have written jointly this monograph. In the preface Prof. Cleland states that it is essentially Dr. Southcott's work. Prof. Cleland's papers have always been of great interest and his series of publications on "Injuries and Diseases of Man attributable to Animals and Plants" (1912-44) are an important source of information. Dr Southcott's contributions to the study of poisonous Coelenterates have gained him an international reputation. It is therefore not surprising that they have written this book, which is an important and valuable contribution to our knowledge of poisonous marine invertebrates. The emphasis is on the medical side and therefore it will be of particular interest to medical practitioners in coastal areas and those engaged in research in animal venoms. Naturalists interested in marine invertebrates will find in this book much valuable information. Much of the still missing information could be collected by field naturalists who are patient and good observers and are interested in these animals. Methods of collecting and handling specimens, the collection of essential information are described in great detail.

The book is well written and edited, the illustrations (particularly the microphotographs) are of very high standard. The appended bibliography covers 15 pages.

The National Health and Medical Research Foundation is to be congratulated for publishing this volume which will be for many years considered as an important review on this subject.

Dr G. H. Kaire

WILDFLOWER SLIDES—PHOTOFLORA 66

The Native Plants Preservation Society reminds you that entries for their photographic competition, Photoflora '66, close on 14th February. Entry forms with full particulars are still available from the Competition Secretary, Miss B. Terrell, 24 Seymour Avenue, Armadale S.E.3. (Tel. 50 2316, evenings.)